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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,448	11/15/2001	Richard Allen Lundgard	61107A	3577

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THE DOW CHEMICAL COMPANY  
INTELLECTUAL PROPERTY SECTION  
P. O. BOX 1967  
MIDLAND, MI 48641-1967

EXAMINER
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NILAND, PATRICK DENNIS

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/002,448	<b>Applicant(s)</b> LUNDGARD ET AL.	
	<b>Examiner</b> Patrick D. Niland	<b>Art Unit</b> 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/9/04</u> . | 6) <input type="checkbox"/> Other: _____  |

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/45476 Choudhery.

Choudhery discloses the instantly claimed method at the abstract; page 2, lines 26-28; page 3, lines 1-27; and page 4, lines 1-10. The uncrosslinked polymer is expected to have the limitations of the instant claim 5 inherently so that it can react with crosslinker at a later stage as solid polymer will not move freely enough to react sufficiently with the crosslinker. See the molecular weights of the paragraph bridging pages 6-7 and note the definition of viscosity average molecular weight also. Page 6, lines 13-21 falls within the scope of the instant claim 6. Pages 6-10 encompass the instant claims 7-12. Page 11, lines 21-23 falls within the scope of the instant claims 13-15.

The applicant's arguments re decoupling of extrusion and dispersion steps is not persuasive because the melting due to extruding and dispersion of Choudhery take place at different portions/times in the extruder, as is clear from page 3, lines 3-9, which

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clearly shows the resin to be melted in the extruder and then subsequently dispersed in continuous phase. This falls within the scope of the instant claims because the extruder is a "mechanical disperser" which is clear on its face and the instant claims encompass the mode of "coupling" of the Choudhery reference, i.e. apparently an extruder with two sections, one for melting the polymer and another for dispersing the polymer, even if these two sections are located in a single barrel of an extruder. These two distinct extrusion phases of Choudhery are "decoupled" within meaning of "decoupled" as used in the applicant's argument though it is also noted that the instant claims require no such "decoupling". It would seem that, if the extruder of the cited reference is a single barrelled extruder, it would be the most economical apparatus because it requires only one machine as opposed to an extruder attached to a different type of mixing device. This rebuts the applicant's argument re economics. The surfactant argument falls with the above "decoupling" argument as does the applicant's argument re cooling the dispersion. The cooling argument is also not persuasive because the claims do not recite any limitations regarding cooling and the applicant's arguments regarding cooling in the Choudhery reference is not supported with any evidence. Applicant's arguments that Choudhery does not teach the use of pigments ignores the teachings of page 4, lines 3-6. Applicant's arguments regarding claim 8 are not persuasive since, as is well known to the ordinary skilled artisan, polymers are mixtures of molecules of different molecular weights. Note the prior references to the molecular weights of Choudhery (which are necessarily some type of average molecular weight) and the definition of viscosity average molecular weight. As is well known by

the ordinary skilled artisan in the polymer arts, all polymers are somewhat if not all amorphous, i.e. liquid. This is born out by the concept of "viscosity average molecular weight" cited in the prior office action. Thus all polymers of Choudhery, page 6 to page 10 will have the two different polymers of claim 8 necessarily, particularly where Choudhery discloses the use of mixtures of polymers. Many of the recited crosslinkers also meet the definition of the instant claim 8, polymer ii, e.g. page 10, lines 14-20. For these reasons, this rejection is maintained.

4. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/45476 Choudhery.

Choudhery discloses the instantly claimed method at the abstract; page 2, lines 26-28; page 3, lines 1-27; and page 4, lines 1-10. The uncrosslinked polymer is expected to have the limitations of the instant claim 5 inherently so that it can react with crosslinker at a later stage as solid polymer will not move freely enough to react sufficiently with the crosslinker. See the molecular weights of the paragraph bridging pages 6-7 and note the definition of viscosity average molecular weight also. Page 6, lines 13-21 falls within the scope of the instant claim 6. Pages 6-10 encompass the instant claims 7-12. Page 11, lines 21-23 falls within the scope of the instant claims 13-15. It would have been obvious to one of ordinary skill in the art to perform the instantly claimed method because it is encompassed by Choudhery and would have been expected to give the benefits disclosed by Choudhery. For the reasons stated in paragraph 3 above, this rejection is maintained.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Niland whose telephone number is (571) 272-1121. The examiner can normally be reached on Monday through Friday from 10 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

pn  
April 4, 2004

  
Patrick Niland  
Primary Examiner  
Art Unit 1714